
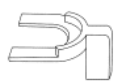
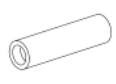


**Cylinder Head**

**Special Tool(s)**

 <p>ST1330-A</p>	<p>Compressor, Valve Spring 303-567 (T97P-6565-AH)</p>
 <p>ST1331-A</p>	<p>Spacer, Valve Spring Compressor 303-382 (T91P-6565-AH)</p>
 <p>ST1332-A</p>	<p>Installer, Valve Stem Oil Seal 303-383 (T91P-6571-A)</p>

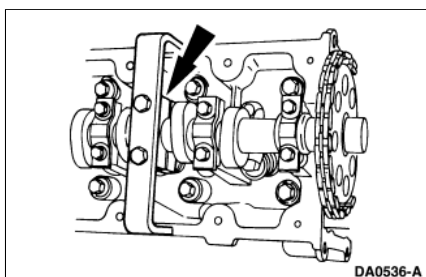
**Material**

Item	Specification
Metal Surface Cleaner F4AZ-19A536-RA	WSE-M5B392-A
Super Premium SAE 5W-20 Motor Oil XO-5W20-QSP	WSS-M2C153-H

**Disassembly**

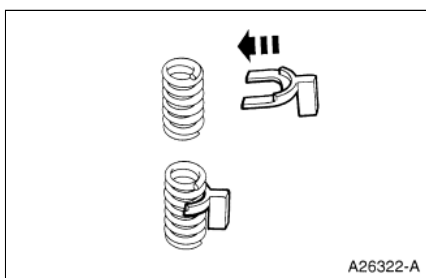
**All engines**

1. On Windsor engines, remove the Camshaft Position Aligner from the camshaft (6250).

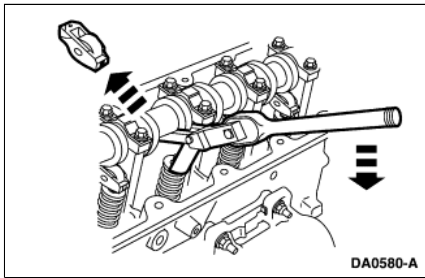


2. **CAUTION:** Do not remove the camshaft before removing the roller followers.  
**CAUTION:** Place the cylinder head (6049) on a cardboard or wood surface to prevent damage to the joint face.

Install the Valve Spring Compressor Spacer between the valve spring coils to prevent valve stem seal damage.

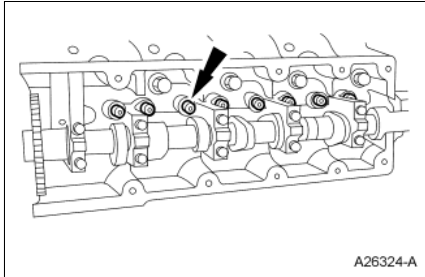


3. **NOTE:** The roller followers must be reinstalled in their original locations. Record roller follower locations.  
Use the Valve Spring Compressor to compress the valve springs (6513), and remove the roller followers.



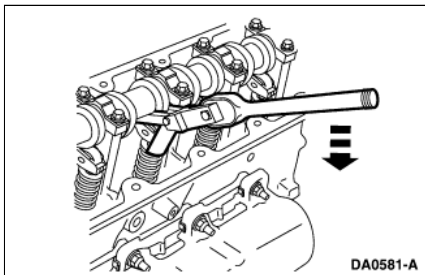
4. **NOTE:** The hydraulic lash adjusters must be installed in their original locations. Record hydraulic lash adjuster locations.

Remove the hydraulic lash adjusters.



5. **NOTE:** Windsor engine shown; Romeo engine is similar.

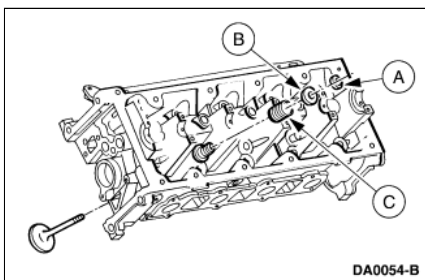
Use the Valve Spring Compressor to compress the valve springs.



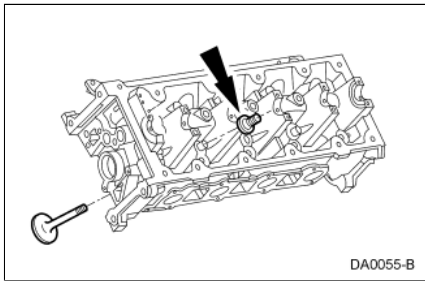
6. **⚠ CAUTION:** Keep the valves and valve spring retainer keys (6518) in order so they can be installed in the same positions.

**NOTE:** Shown without camshaft for clarity.

Remove the (A) valve spring retainer keys, the (B) valve spring retainers (6514), the (C) valve springs, and the valves.



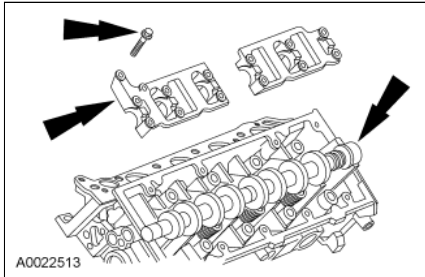
7. Remove the valve stem seals (6571).



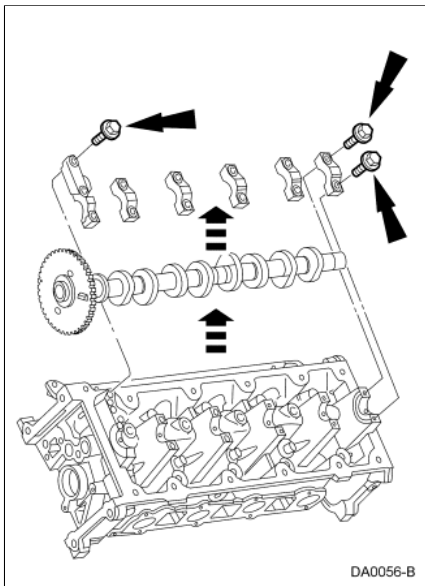
#### Romeo engine (4.6L)

8. **NOTE:** The camshaft bearing caps must be installed in their original location. Record camshaft bearing cap location.

Remove the bolts, the bearing caps and the camshaft.



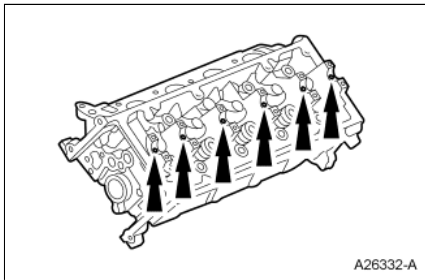
#### Windsor engine (5.4L)



#### Assembly

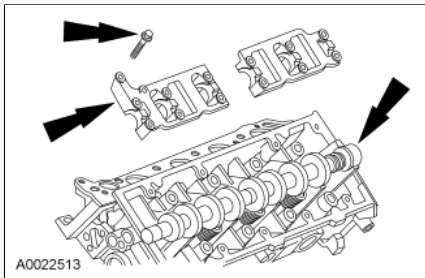
##### All engines

1. **⚠ CAUTION:** Do not use metal scrapers or other tools to clean the cylinder head or damage to the head can occur.  
Use a plastic scraper and metal surface cleaner to clean the cylinder head.
2. Lubricate the camshaft journals with clean engine oil.

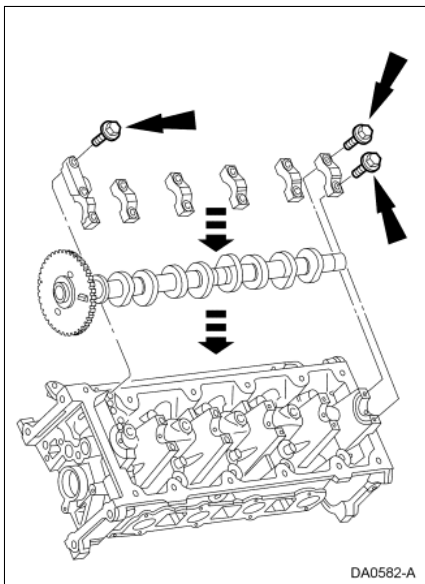


#### Romeo engine (4.6L)

3. Install the camshaft and the camshaft bearing caps in their original locations.
  - Lubricate the camshaft bearing caps with clean engine oil.
  - Position the camshaft bearing caps.
  - Install the bolts loosely.

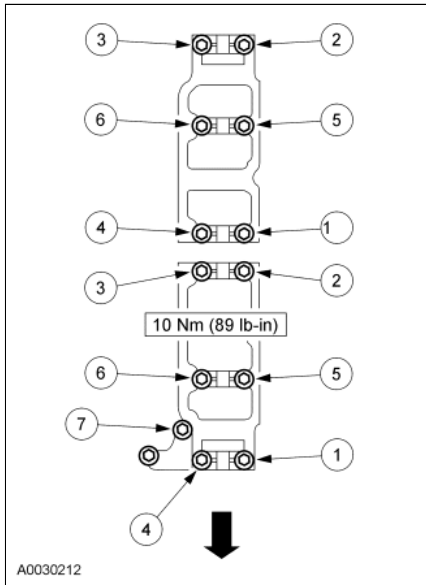


#### Windsor engine (5.4L)

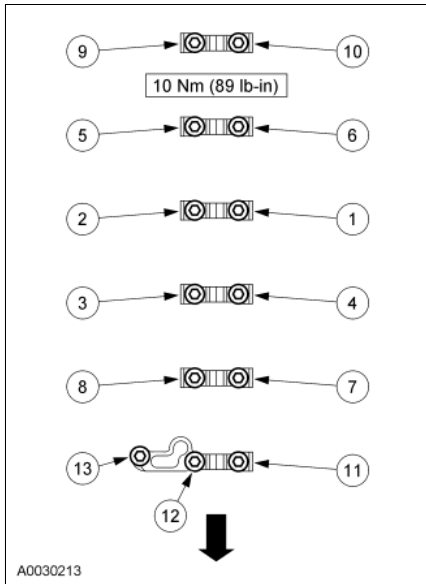


#### Romeo engine (4.6L)

4. Tighten the bolts in the sequence shown.



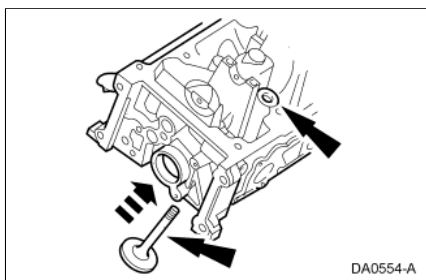
**Windsor engine (5.4L)**



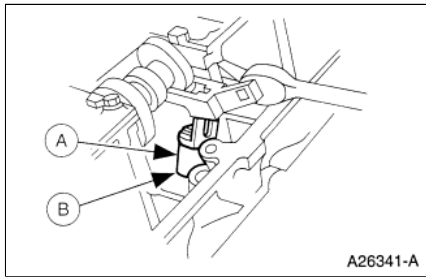
**All engines**

- NOTE:** Lubricate the valve stems using clean engine oil.

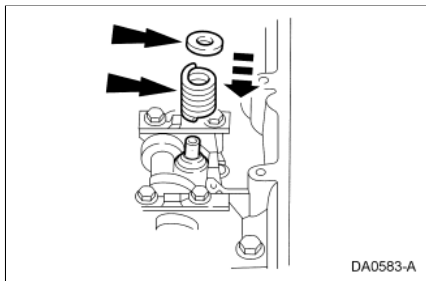
Install the valves in the valve guides located in the cylinder head.



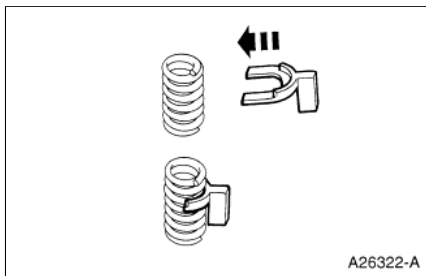
- Use the (A) Valve Stem Oil Seal Installer to install the (B) valve stem seals.



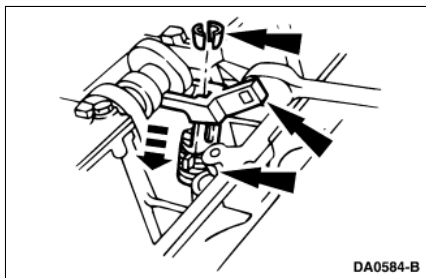
7. Install the valve springs and the valve spring retainers onto the valves.



8. Install the Valve Spring Compressor Spacer between the valve spring coils to prevent valve stem seal damage.

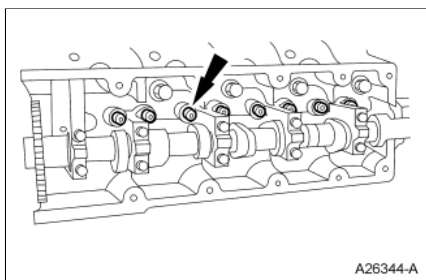


9. Use the Valve Spring Compressor to compress the valve springs, and install the valve spring retainer keys.



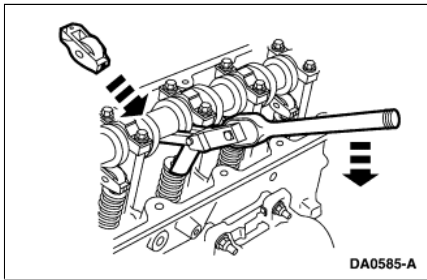
10. **NOTE:** Lubricate the hydraulic lash adjusters using clean engine oil.

Install the hydraulic lash adjusters in their original location.



11. **NOTE:** Lubricate the roller followers using clean engine oil.

Install the roller followers in their original location.



12. Remove the Valve Spring Compressor Spacer.

